(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/077974 A1

(51) International Patent Classification[7]: C07K 14/47, C12Q 1/68, A61K 38/17, 39/395

(21) International Application Number: PCT/EP2005/001624

(22) International Filing Date: 17 February 2005 (17.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04003554.5 17 February 2004 (17.02.2004) EP

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IDENTIFICATION OF SNPs ASSOCIATED WITH HYPERLIPIDEMIA, DYSLIPIDEMIA AND DEFECTIVE CARBOHYDRATE METABOLISM

(57) Abstract: The present invention relates to a nucleic acid molecule comprising a chromosomal region contributing to or indicative of hyperlipidemias and/or dyslipidemias or defective carbohydrate metabolism, wherein said nucleic acid molecule is selected from the group consisting of: (a) a nucleic acid molecule having or comprising the nucleic acid sequence of SEQ ID NO: 1, wherein said nucleic acid séquence has one or more mutations having an effect on USFI function; (b) a nucleic acid molecule having or comprising the nucleic acid sequence of SEQ ID NO: 1, wherein. said nucleic acid sequence is characterized by comprising a guanine or an adenine residue in position 3966 in intron 7 of the USF1 sequence; and/or (c) a nucleic acid molecule having or comprising the nucleic acid sequence of SEQ ID NO: 1, wherein said nucleic acid sequence is characterized by comprising a cytosine or a thymine residue in position 5205 in, exon 11 of the USF1 sequence; wherein said nucleic molecule extends, at a maximum, 50000 nucleotides over the 5' and/or 3' end of the .nucleic acid molecule of SEQ ID NO: 1. The present invention further relates to a diagnostic composition comprising a nucleic acid molecule encoding USF1 or a fragment thereof, the nucleic acid molecule disclosed herein, the vector, the primer or primer pair of the present invention or an antibody specific for USF1. Finally, the present invention relates to the use of the nucleic acid molecule of the invention for the preparation of a pharmaceutical composition for the treatment of hyperlipidemia, dyslipidemia, coronary heart disease, type II diabetes, metabolic syndrome, hypertension or atherosclerosis.

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